AMENDMENTS TO THE CLAIMS

1-25. (Cancelled)

26. (New) A 35C1 antibody, wherein said 35C1 antibody specifically recognizes human and murine aurora-A kinase and is secreted by the hybridoma deposited at the Collection Nationale de Cultures de Microorganismes (CNCM) of the Institut Pasteur under the number I-3050.

27. (New) The 35C1 antibody of claim 26, wherein said antibody can be fixed on membranes containing human or murine aurora-A protein, allows detection and purification of human and murine aurora-A protein by immunoprecipitation, allows staining of biological tissues where aurora-A protein is secreted, and does not inhibit the enzymatic activity of human and murine aurora-A protein; and

wherein said 35C1 antibody is obtained by the following steps:

a) five injections spread over fifteen days to mice of recombinant aurora-A protein kinase produced by *E. coli* bacteria transformed with a bacterial expression vector, with human cDNA coding for aurora-A having been inserted in the genome of said bacterial expression vector, sacrificing said mice, and fusing spleen cells of said mice with hamster cells immortalized in culture in order to obtain hybridomas;

b) screening of said hybridomas producing an antibody capable of immunoprecipitating said recombinant aurora-A protein kinase, and recovery of said positive hybridomas after this first screening,

c) screening of said hybridomas recovered in step b), producing an antibody capable of immunoprecipitating endogenous aurora-A protein from an extract of human HeLa cells in culture, and recovery of said positive hybridomas after this second screening;

d) screening of said hybridomas recovered in step c), producing an antibody capable of recognizing in indirect immunofluorescence centrosomes and poles of the mitotic spindle of human cells in culture, and recovery of said positive hybridomas after this third screening;

e) screening of said hybridomas recovered in step d), producing an antibody capable of immunoprecipitating said endogenous aurora-A protein of mice from an extract of murine cells in culture, and recovery of said positive hybridomas after this fourth screening;

f) screening of said hybridomas recovered in step e), producing an antibody capable of recognizing in indirect immunofluorescence centrosomes and poles of the mitotic spindle of murine cells in culture; and

g) recovery and purification by cloning of a positive hybridoma after screening step f), and production of said 35C1 antibody.

28. (New) A cancer diagnostic or prognostic kit comprising said 35C1 antibody of claim 26.

29. (New) The kit of claim 28, further comprising an antibody to a marker of cell

proliferation.

30. (New) The kit of claim 29, wherein said marker of cell proliferation is proliferative cell nuclear antigen (PCNA) protein.

31. (New) A pharmaceutical composition comprising said 35C1 antibody of claim 26, in combination with a pharmaceutically acceptable vector.

32. (New) A method for *in vitro* diagnostic or prognostic of cancers in humans or animals, comprising the use of a monoclonal antibody of claim 26.

33. (New) The method according to claim 32, for *in vitro* diagnostic or prognostic of solid tumours such as breast cancers, stomach cancers and colorectal cancers.

34. (New) The method of claim 32, also comprising the use of a cell proliferation marker, such as a marker of the PCNA protein.

35. (New) An *in vitro* diagnostic or prognostic method for cancers, in humans or animals, characterized in that it comprises:

– placing a monoclonal antibody according to claim 26, in the presence of a biological sample taken from an individual, said antibody if appropriate being fixed on a solid support,

– the detection, and if appropriate the quantitation, of the aurora-A protein which may be

present in the biological sample using marked reagents, in particular marked antibodies, recognizing either the monoclonal antibody linked to said aurora-A protein, or the aurora-A protein linked to said monoclonal antibody in the complexes formed during the preceding stage between the monoclonal antibody and the aurora-A protein which may be present in the biological sample, this, if necessary, after appropriate rinsing of the solid support.

36. (New) The method of claim 35, characterized in that the determination of a quantity of aurora-A protein lower than or greater than the normal physiological values in the biological sample, shows respectively a good or a poor prognosis for the diagnosed cancer.

37. (New) A kit for the implementation of the diagnostic method of claim 35, characterized in that it comprises:

– an anti-aurora-A monoclonal antibody according to claim 26,

– if appropriate, a cell proliferation marker, such as a marker of the PCNA protein, in particular an anti-PCNA antibody.

38. (New) A method of treatment of cancers, such as breast cancers, colorectal cancers and stomach cancers, comprising the use of an appropriate amount of the antibody of claim 26.

39. (New) A method for screening inhibitors of aurora-A kinase, comprising the use of an anti-aurora-A monoclonal antibody according to claim 26, and in which the lowering of the activity of this kinase is measured using said antibody.

40. (New) A method for screening inhibitors of aurora-A kinase characterized in that it comprises the following stages:

– the treatment of cells, such as lines derived from different cancers, with the inhibitor tested,

– immunoprecipitation of the aurora-A protein kinase using an antibody according to claim 26, and measurement of the kinase activity.

41. (New) A method for the preparation of an anti-aurora-A monoclonal antibody according to claim 26, characterized in that it comprises the following stages:

– five injections spread over fifteen days to mice of recombinant aurora-A protein kinase produced by *E. coli* bacteria transformed with a bacterial expression vector in the genome of which the human cDNA coding for aurora-A has been inserted, sacrificing said mice, and fusion between cells of the spleen of these mice and hamster cells immortalized in culture in order to obtain hybridomas,

– screening of the hybridomas producing an antibody capable of immunoprecipitating the recombinant protein used for the immunization of the mice during the preceding stage, and recovery of the positive hybridomas after this first screening,

– screening of the hybridomas recovered in the preceding stage, producing an antibody capable of immunoprecipitating the endogenous aurora-A protein from an extract of human HeLa cells in culture, and recovery of the positive hybridomas after this second screening,

– screening of the hybridomas recovered in the preceding stage, producing an antibody

capable of recognizing in indirect immunofluorescence the centrosomes and the poles of the mitotic spindle of human cells in culture, and recovery of the positive hybridomas after this third screening,

– screening of the hybridomas recovered in the preceding stage, producing an antibody capable of immunoprecipitating the endogenous aurora-A protein of mice from an extract of murine cells in culture, and recovery of the positive hybridomas after this fourth screening,

– screening of the hybridomas recovered in the preceding stage, producing an antibody capable of recognizing in indirect immunofluorescence the centrosomes and the poles of the mitotic spindle of murine cells in culture,

– recovery and purification by cloning of a positive hybridoma after the preceding screening stage, and production of a monoclonal antibody possessing all of the properties defined in claim 26.